

## ModuSat® CHHC Combined Heating & Cooling Heat Interface Units

The ModuSat® combined heating, hot water and cooling unit provides simultaneous heating and cooling and the instantaneous production of hot water. Designed to simplify apartment installations where cooling and heating is required; the CHHC unit features a small footprint that minimises required cupboard space, with easy access for service and maintenance.



The heating, DHW & cooling plate heat exchangers are housed within a single cased unit with high quality fully insulated separation between the hot and chilled zones. The unit can be provided in either floor standing or wall mounted orientations making it suitable for a wide number of installation configurations.

The ModuSat® CHHC is available with a number of plate size options to meet a range of cooling, heating and DHW requirements and can be supplied complete with a ViewSmart room controller featuring humidity control.

## Features & Benefits

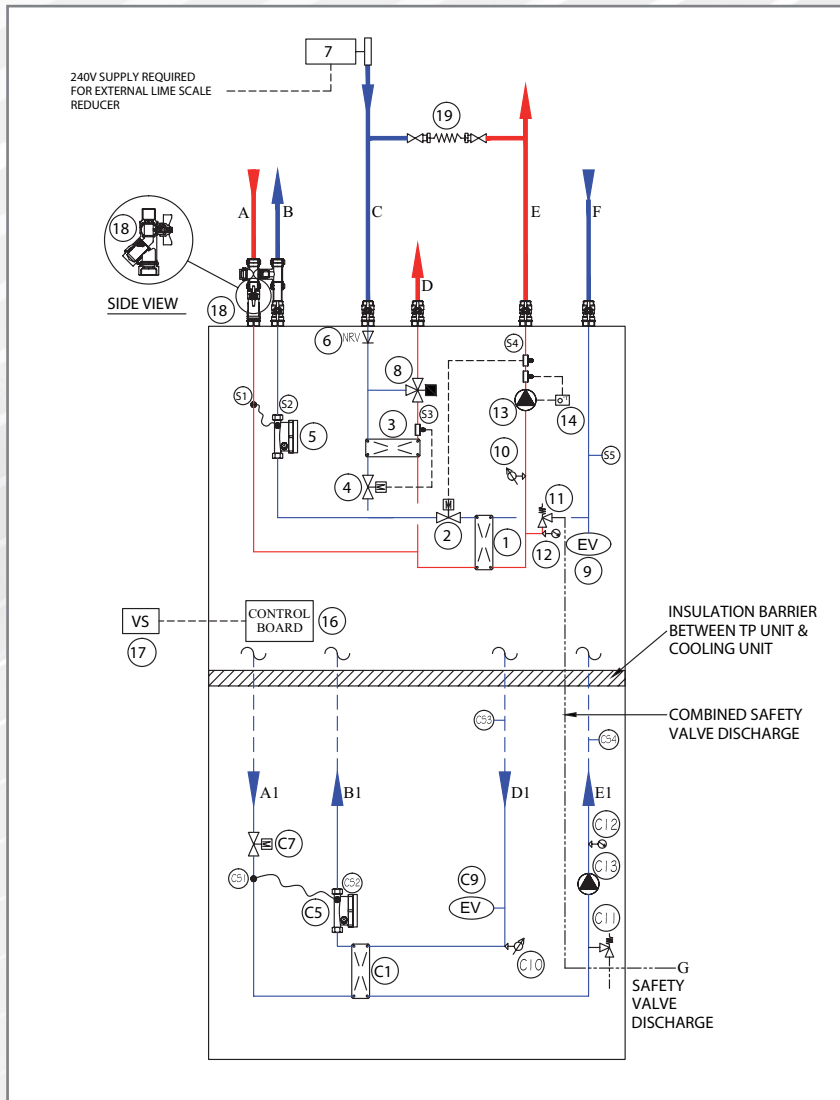
- Units suitable for single and multi-family homes
- Ultrasonic heat meter & cooling meter - MID Certified
- Compact design, with minimum space required for installation
- Unit insulation - EPDM 75-0 thickness: 5mm
- 15mm insulation between heating and cooling parts of unit
- Pipes constructed from copper
- Stainless steel Plate Heat Exchangers
- Braze-welded exchanger for primary circuit separation on heating & cooling
- Braze-welded exchanger for DHW production
- Option of floor standing or wall mounted unit
- External filling loop
- PaySmart® unit for debt free energy billing (Optional)
- SmartTalk® two way communication
- In-built Non Return Valve on the return - Prevents incorrect pipework connection.
- Wilo PWM Pump - Provides compliance with 2015 pump efficiency regulations.
- Pressure Independent Control Valves (PICV) eliminate the requirement for 3 separate valves for the regulation of differential pressure, flow and heat energy.
- Hot water blending valve for additional DHW temperature safety.
- Wireless RS485 module can provide connection remotely without the requirement of a Bus network. (Optional)
- Control board works with TCP/IP and provides operation of up to three heating circuits.
- Remote monitoring, alarms and diagnostics
- ViewSmart Room Controller with optional ENE 3 model.
- No annual gas appliance inspections required.
- Cold water meter (Optional external)
- Capable of reading the electrical meter (Option for ENE3)

# Circuit diagram

# ModuSat® CHHC

Heat Interface Units

## Typical Floor Standing or Wall Mounted CHHC Unit with Top Connections



### Components

#### TP Unit (HTG / DHW)

- A** Primary / DH flow
- B** Primary / DH return
- C** Domestic cold water Inlet
- D** Domestic hot water outlet
- E** Secondary / Apartment heating flow
- F** Secondary / Apartment heating return
- G** Connection for safety discharge

#### Cooling Unit

- A1** Primary flow
- B1** Primary return
- D1** Secondary return
- E1** Secondary flow

#### Cooling Unit

- C1** Cooling PHE
- C5** Cooling meter
- C7** Cooling Pressure Independent Control Valve with actuator
- C9** Cooling expansion vessel
- C10** Low pressure switch
- C11** Safety relief discharge
- C12** Manometer
- C13** Cooling circulation pump

### Components

#### Primary Circuit Side

- 1** Insulated plate heat exchanger (Heating)
- 2** Heating Pressure Independent Control Valve with actuator
- 3** Insulated plate heat exchanger (Domestic Hot Water)
- 4** DHW Pressure Independent Control Valve with actuator
- 5** Heat meter
- 6** Non-return valve

#### DHW Secondary Side Circuit

- 7** External lime scale reducer (Optional)
- 8** Blending valve

#### Heating Secondary Side Circuit

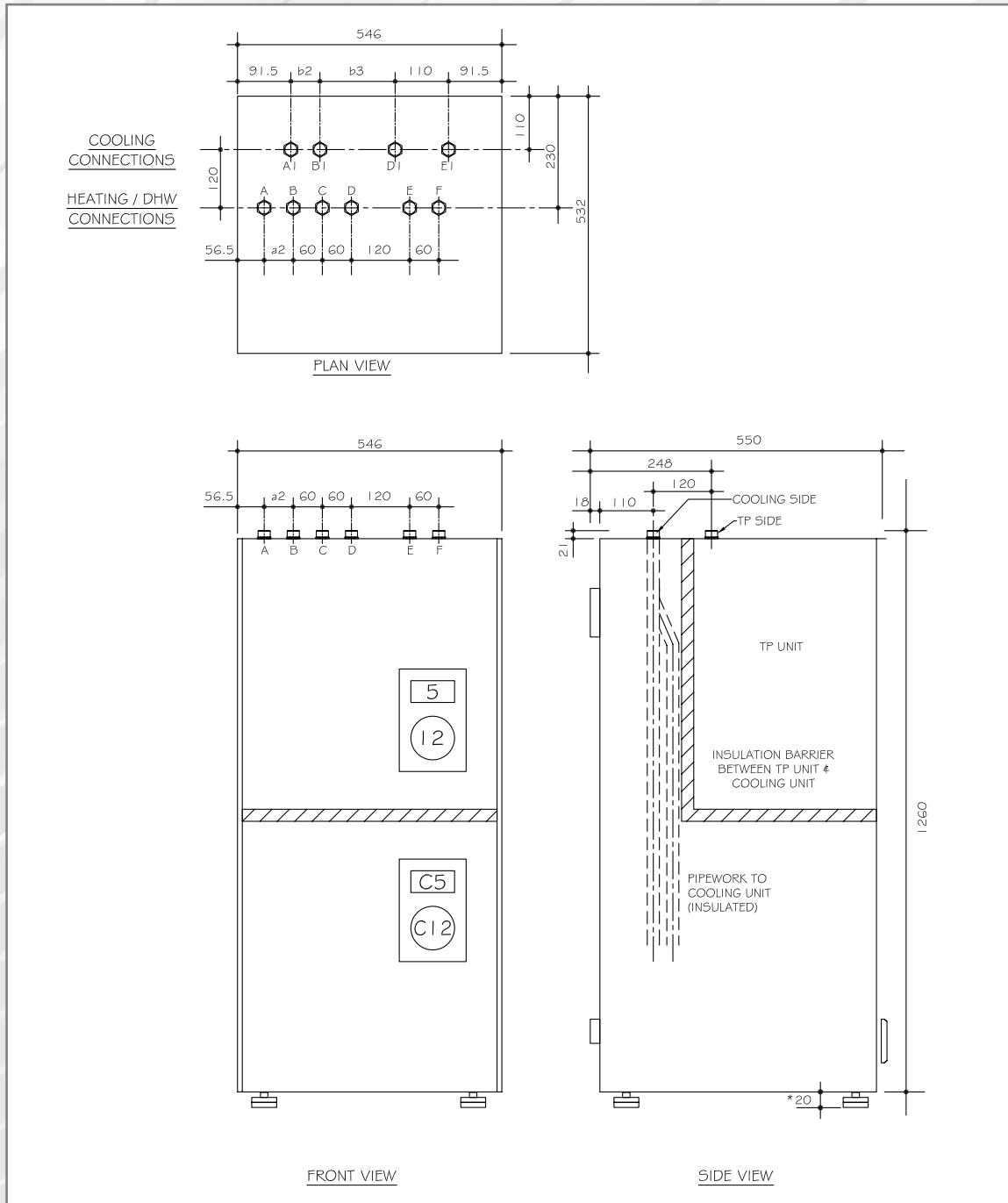
- 9** Heating expansion vessel
- 10** Low pressure switch
- 11** Safety relief discharge
- 12** Manometer
- 13** Heating circulation pump
- 14** Safety thermostat (Optional)

#### Controls & Other Items

- 16** Electronic control board
- 17** ViewSmart Controller
- 18** Flushing bypass, strainer & IV assembly
- 19** Filling loop (External)

# Dimensions

## Typical Floor Standing or Wall Mounted CHHC Unit with Top Connections



\*Dimension shown for the feet only applicable to the Floor Standing model

Model Ref	TP connections	Cooling connections	Distance		
	A, B, C, D, E and F	AI, BI, DI, EI	a2	b2	b3
CHHC XX-XX-50	22 mm	22 mm	60 mm	60 mm	193 mm
CHHC XX-XX-60		28 mm	60 mm	90 mm	163 mm
CHHC XX-XX-60h			60 mm	90 mm	163 mm

# Technical Details

## ModuSat® CHHC Heat Interface Units

### Typical Domestic Hot Water Performances

	51 kW	55 kW	65 kW
Plate Heat Exchanger	40-XX	50-XX	55-XX
Primary flow l/h	1000	1000	1000
Primary in/out °C	80/35	80/32	80/23
DHW flow l/h	990	1050	1250
DHW flow temperature °C	55	55	55
Connections	3/4"		

### Typical Heating Performances

	8kW
Plate Heat Exchanger	xx-10
Primary flow l/h	470
Primary in/out °C	80/65
HTG flow l/h	350
HTG in/out °C	50/70
Connections	3/4"

### Typical Cooling Performances

	6 kW	8 kW	10 kW
Plate Heat Exchanger	250/50	250/60	250/60h
Primary flow l/h	900	1250	1575
Primary in/out °C	6/12	6/12	6/12
CHW flow l/h	860	1150	1450
CHW in/out °C	14/8	14/8	14/8
Connections	3/4"	1"	1"

Types of CHHC	40-10	50-10	55-10
6kW	CHHC 401050	CHHC 501050	CHHC 551050
8kW	CHHC 401060	CHHC 501060	CHHC 551060
10kW	CHHC 401060h	CHHC 501060h	CHHC 551060h

#### Key

- CHHC** → ModuSat Combined Heating & Hot Water & Cooling
- 40-XX-XX** → DHW Plate Heat Exchanger, number represents the number of plates  
**50-XX-XX**  
**55-XX-XX**
- XX-10-XX** → Heating Plate Heat Exchanger, number represents the number of plates
- XX-XX-50** → Cooling Plate Heat Exchanger, number represents the number of plates  
**XX-XX-60**  
**XX-XX-60h**



Please Note: Above performances are based on our standard models. Other sizes are available to suit specific project requirements. Contact the Evinox Energy Technical Department on 01372 722277 for further information.